



**6560-50-P**

**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Part 52**

**[EPA-R04-OAR-2009-0783; FRL-9653-8]**

**Approval and Promulgation of Implementation Plans; Commonwealth of Kentucky;**

**Regional Haze State Implementation Plan**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Final rule.

**SUMMARY:** EPA is finalizing a limited approval and a limited disapproval of two revisions to the Kentucky state implementation plan (SIP) submitted by the Commonwealth of Kentucky through the Kentucky Energy and Environment Cabinet, Division of Air Quality (KYDAQ), on June 25, 2008, and May 28, 2010. Kentucky's June 25, 2008, and May 28, 2010, SIP revisions address regional haze for the first implementation period. Specifically, these revisions address the requirements of the Clean Air Act (CAA or Act) and EPA's rules that require states to prevent any future and remedy any existing anthropogenic impairment of visibility in mandatory Class I areas (national parks and wilderness areas) caused by emissions of air pollutants from numerous sources located over a wide geographic area (also referred to as the "regional haze program"). States are required to assure reasonable progress toward the national goal of achieving natural visibility conditions in Class I areas. EPA is finalizing a limited approval of Kentucky's June 25, 2008, and May 28, 2010, SIP revisions to implement the regional haze requirements for Kentucky on the basis that these revisions, as a whole, strengthen the Kentucky

SIP. Also in this action, EPA is finalizing a limited disapproval of these same SIP revisions because of the deficiencies in the Commonwealth's regional haze SIP revisions arising from the remand by the U.S. Court of Appeals for the District of Columbia Circuit (D.C. Circuit) to EPA of the Clean Air Interstate Rule (CAIR).

**EFFECTIVE DATE:** This rule will be effective [insert 30 days from the date of publication in the Federal Register].

**ADDRESSES:** EPA has established a docket for this action under Docket Identification No. EPA-R04-OAR-2009-0783. All documents in the docket are listed on the [www.regulations.gov](http://www.regulations.gov) website. Although listed in the index, some information is not publicly available, i.e., Confidential Business Information or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through [www.regulations.gov](http://www.regulations.gov) or in hard copy at the Regulatory Development Section, Air Planning Branch, Air, Pesticides and Toxics Management Division, U.S. Environmental Protection Agency, Region 4, 61 Forsyth Street, SW, Atlanta, Georgia 30303-8960. EPA requests that if at all possible, you contact the person listed in the **FOR FURTHER INFORMATION CONTACT** section for further information. The Regional Office's official hours of business are Monday through Friday, 8:30 to 4:30, excluding federal holidays.

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## **SUPPLEMENTARY INFORMATION:**

### **Table of Contents**

- I. What is the Background for This Final Action?**
- II. What is EPA's Response to Comments Received on This Action?**
- III. What is the Effect of This Final Action?**
- IV. Final Action**
- V. Statutory and Executive Order Reviews**

### **I. What is the Background for This Final Action?**

Regional haze is visibility impairment that is produced by a multitude of sources and activities which are located across a broad geographic area and emit fine particles (e.g., sulfates, nitrates, organic carbon, elemental carbon, and soil dust), and their precursors (e.g., sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), and in some cases, ammonia and volatile organic compounds (VOC)). Fine particle precursors react in the atmosphere to form fine particulate matter (PM<sub>2.5</sub>) which impairs visibility by scattering and absorbing light. Visibility impairment reduces the clarity, color, and visible distance that one can see. PM<sub>2.5</sub> can also cause serious health effects and mortality in humans and contributes to environmental effects such as acid deposition and eutrophication.

In section 169A of the 1977 Amendments to the CAA, Congress created a program for protecting visibility in the nation's national parks and wilderness areas. This section of the CAA establishes the "prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Class I areas which impairment results from manmade air pollution" as a national goal. On December 2, 1980, EPA promulgated regulations to address visibility impairment in Class I areas that is "reasonably attributable" to a single source or small group of sources, i.e., "reasonably attributable visibility impairment." *See* 45 FR 80084. These regulations represented the first phase in addressing visibility impairment. EPA deferred action on regional haze that emanates from a variety of sources until monitoring, modeling, and scientific knowledge about the relationships between pollutants and visibility impairment were improved.

Congress added section 169B to the CAA in 1990 to address regional haze issues. EPA promulgated a rule to address regional haze on July 1, 1999 (64 FR 35713), the Regional Haze Rule (RHR). The RHR revised the existing visibility regulations to integrate into the regulation provisions addressing regional haze impairment and established a comprehensive visibility protection program for Class I areas. The requirements for regional haze, found at 40 CFR 51.308 and 51.309, are included in EPA's visibility protection regulations at 40 CFR 51.300-309. The requirement to submit a regional haze SIP applies to all 50 states, the District of Columbia, and the Virgin Islands. 40 CFR 51.308(b) requires states to submit the first implementation plan addressing regional haze visibility impairment no later than December 17, 2007.

On June 25, 2008, and May 28, 2010, KYDAQ submitted revisions to Kentucky's SIP to address regional haze in the Commonwealth's and other states' Class I areas. On December 16, 2011, EPA published an action proposing a limited approval and a limited disapproval of

Kentucky's two SIP revisions to address the first implementation period for regional haze. *See* 76 FR 78194. EPA proposed a limited approval of Kentucky's two SIP revisions to implement the regional haze requirements for Kentucky on the basis that these revisions, as a whole, strengthen the Kentucky SIP. Also in that action, EPA proposed a limited disapproval of these same SIP revisions because of the deficiencies in the Commonwealth's regional haze SIP revisions arising from the remand of CAIR to EPA by the D.C. Circuit. EPA received comments on the Agency's proposed actions for Kentucky's June 25, 2008, and May 28, 2010, SIP revisions. See section II of this rulemaking for a summary of comments received and EPA's responses to these comments. Also, detailed background information and EPA's rationale for the proposed actions are provided in EPA's December 16, 2011, proposed rulemaking.

Following the remand of CAIR, EPA recently issued a new rule in 2011 to address the interstate transport of NO<sub>x</sub> and SO<sub>2</sub> in the eastern United States. *See* 76 FR 48208 (August 8, 2011) ("the Transport Rule," also known as the Cross-State Air Pollution Rule (CSAPR)). On December 30, 2011, EPA proposed to find that the trading programs in the Transport Rule would achieve greater reasonable progress towards the national goal than would best available retrofit technology (BART) in the states in which the Transport Rule applies. *See* 76 FR 82219. Based on this proposed finding, EPA also proposed to revise the RHR to allow states to substitute participation in the trading programs under the Transport Rule for source-specific BART. EPA has not yet taken final action on that rule.

Also on December 30, 2011, the D.C. Circuit issued an order addressing the status of the Transport Rule and CAIR in response to motions filed by numerous parties seeking a stay of the Transport Rule. In that order, the D.C. Circuit stayed the Transport Rule pending the court's resolutions of the petitions for review of that rule in *EME Homer Generation, L.P. v. EPA* (No.

11-1302 and consolidated cases). The court also indicated that EPA is expected to continue to administer CAIR in the interim until the court rules on the petitions for review of the Transport Rule.

## **II. What is EPA's Response to Comments Received on This Action?**

EPA received three sets of comments on the December 16, 2011, rulemaking proposing a limited approval and limited disapproval of Kentucky's June 25, 2008, and May 28, 2010, SIP revisions. Specifically, the comments were received from the East Kentucky Power Cooperative (EKPC), the Utility Air Regulatory Group, and collectively from the Sierra Club and National Parks Conservation Association. Full sets of the comments provided by all of the aforementioned entities (hereinafter referred to as "the Commenter") are provided in the docket for today's final action. The docket for this action is available at [www.regulations.gov](http://www.regulations.gov) under Docket Identification No. EPA-R04-OAR-2009-0783. A summary of the comments and EPA's responses are provided below.

**Comment 1:** The Commenter asserts that EPA does not have the authority under the CAA to issue a limited approval and concurrent limited disapproval of Kentucky's regional haze SIP. The Commenter contends that section 110(k) of the Act only allows EPA to fully approve, partially approve and partially disapprove, conditionally approve, or fully disapprove a SIP.

**Response 1:** As discussed in the September 7, 1992, EPA memorandum cited in the notice of proposed rulemaking,<sup>1</sup> although section 110(k) of the CAA may not expressly provide authority

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<sup>1</sup> *Processing of State Implementation Plan (SIP) Revisions*, EPA Memorandum from John Calcagni, Director, Air

for limited approvals, the plain language of section 301(a) does provide “gap-filling” authority authorizing the Agency to “prescribe such regulations as are necessary to carry out” EPA’s CAA functions. EPA may rely on section 301(a) in conjunction with the Agency’s SIP approval authority in section 110(k)(3) to issue limited approvals where it has determined that a submittal strengthens a given state SIP and that the provisions meeting the applicable requirements of the Act are not separable from the provisions that do not meet the Act’s requirements. EPA has adopted the limited approval approach numerous times in SIP actions across the nation over the last twenty years. Limited approval and limited disapproval actions are appropriate here because EPA has determined that Kentucky’s SIP revisions addressing regional haze, as a whole, strengthen the Commonwealth’s SIP and because the provisions in the SIP revisions are not separable.

The Commenter notes that EPA’s action “directly contradicts the plain language of the Clean Air Act” and cites several federal appellate court decisions to support its contention that section 110(k) of the Act limits EPA to “a conditional approval, a partial approval and disapproval, or a full approval.” However, adopting the Commenter’s position would ignore section 301 and violate the “‘fundamental canon of statutory construction that the words of a statute must be read in their context and with a view to their place in the overall statutory scheme’ .... A court must therefore interpret the statute ‘as a symmetrical and coherent regulatory scheme,’ ... and ‘fit, if possible, all parts into an harmonious whole.’” *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 133 (2000) (quoting *Davis v. Michigan Dept. of Treasury*, 489 U.S. 803, 809 (1989), *Gustafson v. Alloyd Co.*, 513 U.S. 561, 569 (1995), and

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Quality Management Division, OAQPS, to Air Division Directors, EPA Regional Offices I-X, September 7, 1992, (“1992 Calcagni Memorandum”) located at <http://www.epa.gov/ttn/caaa/t1/memoranda/siproc.pdf>.

*FTC v. Mandel Brothers, Inc.*, 359 U.S. 385, 389 (1959)). Furthermore, the cases cited by the Commenter did not involve challenges to a limited approval approach, and one of the cases, *Abramowitz v. EPA*, 832 F.2d 1071 (9th Cir. 1988) predates the 1990 CAA amendments enacting section 110(k).

**Comment 2:** The Commenter states that EPA must partially disapprove Kentucky’s regional haze SIP submittal because it relied on CAIR, a rule that, in the Commenter’s words, has been “declared illegal, remanded and will come to an end.” The Commenter also contends that EPA must specifically “disapprove the LTS [long-term strategy] that rely upon emissions reductions predicted to result from CAIR to supplant NO<sub>x</sub> and SO<sub>2</sub> BART analyses and determinations for EGUs [electric generating units] and otherwise meet RPGs [reasonably progress goals].”

**Response 2:** In 2008, the D.C. Circuit remanded CAIR back to the Agency because the court believed that CAIR was inconsistent with the requirements of the CAA. Although CAIR may not remain in effect indefinitely, it is currently in force, and the Commonwealth’s reliance on CAIR was fully consistent with EPA’s regulations at the time that Kentucky developed its regional haze SIP. As explained in the December 16, 2011, proposed rulemaking (76 FR 78194), EPA is taking a limited approval action because the revisions as a whole strengthen the SIP and because this action is consistent with the court’s intention to keep CAIR temporarily in place. The limited approval results in an approval of the entire regional haze submission and all of its elements, preserving the visibility benefits offered by the SIP until CAIR is replaced by the Transport Rule and EPA demonstrates that the Transport Rule is better than BART. EPA is taking a limited disapproval action because the Agency cannot fully approve regional haze SIP revisions that rely on CAIR for emissions reduction measures for the reasons discussed in section



IV of the December 16, 2011, proposed rulemaking. EPA's response to Comment 1, above, explains the Agency's authority to take limited approval and limited disapproval actions under the CAA.

EPA disagrees with the Commenter's request for a partial disapproval of the SIP. Because the SIP provisions relying on CAIR, including the LTS, do not meet the applicable regional haze requirements and are not separable from the provisions that meet the applicable requirements of the Act, a partial disapproval would prevent any of the SIP's air quality benefits from being realized until EPA promulgated a FIP or approved a revised SIP to address the deficiencies. Furthermore, the two-year clock to promulgate a FIP to remedy the deficiencies is triggered by the limited disapproval just as it would be triggered by a partial disapproval. On December 30, 2011, EPA proposed to find that the trading programs in the Transport Rule would achieve greater reasonable progress towards the national goal than would BART in the states in which the Transport Rule applies. *See* 76 FR 82219. Based on this proposed finding, EPA also proposed a FIP for Kentucky in that action that would substitute participation in the trading programs under the Transport Rule for participation in CAIR for the purposes of satisfying regional haze requirements and would remedy the CAIR-related deficiencies discussed above.

**Comment 3:** The Commenter identifies its opposition to EPA's December 30, 2011, proposed rulemaking to find that the Transport Rule is better than BART and to "use the Transport Rule as an alternative to BART" for Kentucky and other states subject to the Transport Rule. The Commenter incorporates its comments on that December 30, 2011, rulemaking "by reference" and outlines several of those comments, including its arguments that the Transport Rule is not "better than BART" and that EPA cannot rely on the Transport Rule as an "alternative program

or measure to displace BART requirements for those BART-eligible sources in Transport Rule states.”

**Response 3:** In today’s rule, EPA is taking final action on the limited approval and limited disapproval of Kentucky’s regional haze SIP. The Commenter correctly recognizes that EPA did not propose to find that participation in the Transport Rule is an alternative to BART in this rulemaking. As noted above, EPA made this proposed finding in a separate action on December 30, 2011, and the Commenter is merely reiterating and incorporating its comments on that separate action. These comments are therefore beyond the scope of this rulemaking and will be addressed, as appropriate, by EPA in its final action on the December 30, 2011, proposed rule.

**Comment 4:** The Commenter believes that the 2018 emissions inventory is not approvable because Kentucky relied on the not-yet-approved Charlotte/Gastonia/Rock Hill 1997 8-hr ozone nonattainment area SIP; consent decrees for EKPC and American Electric Power (AEP) that allow for various compliance options; and the Industrial Boiler Maximum Achievable Control Technology (MACT) rule. The Commenter also believes that it is irrational and arbitrary for EPA to expect that the State will issue case-by-case MACT determinations through title V renewal permits in a timely manner.

**Response 4:** EPA does not expect that minor inventory differences like those alleged, even if they occur, would affect the adequacy of Kentucky’s regional haze SIP. The technical information provided in the record demonstrates that the emissions inventory in the SIP adequately reflects projected 2018 conditions and should be approved. Kentucky’s 2018

projections are based on the Commonwealth's technical analysis of the anticipated emissions rates and level of activity for EGUs, other point sources, nonpoint sources, on-road sources, and off-road sources based on their emissions in the 2002 base year, considering growth and additional emissions controls to be in place and federally enforceable by 2018. The emissions inventory used in the regional haze technical analyses was developed by Visibility Improvement State and Tribal Association of the Southeast (VISTAS) with assistance from Kentucky. The 2018 emissions inventory was developed by projecting 2002 emissions (the latest region-wide inventory available at the time the submittal was being developed) and applying reductions expected from federal and state regulations affecting the emissions of VOC and the visibility-impairing pollutants NO<sub>x</sub>, particulate matter (PM), and SO<sub>2</sub>.

To minimize the differences between the 2018 projected emissions used in the Kentucky regional haze submittal and what actually occurs in 2018, the RHR requires that the five-year review address any expected significant differences due to changed circumstances from the initial 2018 projected emissions, provide updated expectations regarding emissions for the implementation period, and evaluate the impact of these differences on RPGs. It is expected that individual projections within a statewide inventory will vary from actual emissions over a 16-year period. For example, some facilities shut down whereas others expand operations. Furthermore, economic projections and population changes used to estimate growth often differ from actual events; new rules are modified, changing their expected effectiveness; and methodologies to estimate emissions improve, modifying emissions estimates. The five-year review is a mechanism to assure that these expected differences from projected emissions are considered and their impact on the 2018 RPGs is evaluated.

In the specific instances cited by the Commenter, the Commonwealth's analysis of projected emissions meets the requirements of the regional haze regulations and EPA guidance. In the cases of the two NO<sub>x</sub> sources in Charlotte (Philip Morris and Norandal), the projected emissions reductions have already occurred or installation of control equipment is underway and the differences between projected emissions and actual emissions, if there are any, are likely to be too small to affect any of Kentucky's modeling. For the EGUs in Kentucky (EKPC's Spurlock and Cooper plants and AEP's Big Sandy Plant (Big Sandy)), the Commonwealth adjusted the Integrated Planning Model (IPM) projections that VISTAS used for the inventory projections to postpone the NO<sub>x</sub> and SO<sub>2</sub> controls that IPM projected for 2009 based on the terms of the consent decrees for EKPC and AEP.

Regarding the changes to the Industrial Boiler MACT rule, VISTAS projected that the emissions reductions resulting from the original, vacated Industrial Boiler MACT rule would be 0.1 to 0.2 percent, depending on the pollutant, of the projected 2018 SO<sub>2</sub>, PM<sub>2.5</sub>, and coarse particulate matter (PM<sub>10</sub>) inventory. EPA has re-promulgated an Industrial Boiler MACT rule that is at least equivalent to the one vacated with regard to the issues raised by the Commenter, and EPA expects that this rule will result in lower emissions from the affected facilities than those originally projected for 2018. Further, as discussed in the December 16, 2011, proposed rulemaking, there are provisions for case-by-case controls should the Industrial Boiler MACT rule not be implemented pursuant to its currently anticipated schedule.

**Comment 5:** The Commenter contends that EPA must disapprove the Kentucky SIP revisions with regard to the modeling if the "modified version" of EPA's Models-3/Community Multiscale Air Quality (CMAQ) model used by the Commonwealth has not been established to be

consistent with Appendix W. The Commenter also states that the modeling uses meteorology from 2002 that is out of date and not representative of 2018 or 2064, especially considering climate change. According to the Commenter, EPA must therefore disapprove the modeling, require Kentucky to use recent meteorological data, and require that the modeling consider what impacts climate change will have on future visibility impairment, ozone formation, and other factors that influence visibility impairment such as relative humidity.

**Response 5:** The modeling used by Kentucky is consistent with Appendix W. EPA's guidance does not require a specific modeling system for evaluating photochemical phenomena. EPA's CMAQ modeling system is one of the photochemical grid models available capable of addressing ozone, PM, visibility, and acid deposition on a regional scale. The photochemical model that VISTAS selected for this study was CMAQ version 4.5. VISTAS modified the module for secondary organic aerosols in an open and transparent manner that was also subjected to outside peer review (see Appendix C of the Kentucky regional haze SIP, located in the docket for this action, for more information on the model selection criteria). The procedures and analyses used in the CMAQ modeling were developed in consultation with the appropriate reviewing authorities and the affected federal land managers (FLMs).

The modeling system based on the CMAQ photochemical model with a modified secondary aerosol module and used in the regional assessment of regional haze was developed and applied consistent with EPA's *Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, PM<sub>2.5</sub>, and Regional Haze*, located at <http://www.epa.gov/scram001/guidance/guide/final-03-pmrh-guidance.pdf>, (EPA-454/B-07-002), April 2007, and the EPA document entitled, *Emissions Inventory Guidance for*

*Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations*, located at <http://www.epa.gov/ttnchie1/eidocs/eiguid/index.html>, EPA-454/R-05-001, August 2005, updated November 2005 (“EPA’s Modeling Guidance”).

VISTAS developed the technical analyses supporting Kentucky’s regional haze SIP in the 2003 - 2006 time period; therefore, the use of 2002 data is appropriate and consistent with the EPA memorandum authored by Lydia Wegman entitled, *2002 Base Year Emissions Inventory SIP Planning: 8-hr Ozone, PM<sub>2.5</sub> and Regional Haze Programs*, located at [http://www.epa.gov/ttnchie1/eidocs/2002baseinven\\_102502new.pdf](http://www.epa.gov/ttnchie1/eidocs/2002baseinven_102502new.pdf). With regard to using meteorology from any chosen year, the issue is whether the chosen year is representative, not whether it is “out of date.” VISTAS conducted an in-depth analysis which resulted in the selection of the entire year of 2002 (January 1–December 31) as the best period of meteorology available for conducting the CMAQ modeling for the chosen base year of 2002.

Regarding the comment that the modeling must consider the impacts of climate change, the use of 2002 meteorology without adjustment is more appropriate and more consistent with existing agency guidance. EPA disagrees with the Commenter’s position on this issue, a position that the Commenter has raised in prior Kentucky SIP rulemakings. As explained in more detail in those responses, modeling guidance is not yet available for the type of area-specific analysis of effects of climate change required for SIP planning. It is therefore premature to require a precise mathematical accounting in the SIP process for the effect of higher ambient temperatures due to climate change. The use of unadjusted meteorological input is consistent with how photochemical modeling demonstrations are developed for regulatory analyses. The 2002 meteorological data is used to support the base and future year modeling. The rationale for its

use in the base year is to test the model's performance in reproducing observed temporal and concentration spatial patterns. It is also used in the future year modeling for 2018 to test how control strategy is sufficient address the conditions observed in the base year of 2002. The 2064 year is not included or addressed in the regional haze SIP in this round of submittals.

**Comment 6a:** The Commenter states that Kentucky excluded the auxiliary boiler at Big Sandy from a BART analysis because it only operated for short periods of time during startup and emissions tests. According to the Commenter, EPA cites no authority for this proposition, mentions no enforceable conditions that limit Big Sandy's auxiliary boiler operations, and thus, EPA must disapprove the SIP for failure to have a BART analysis for Big Sandy's auxiliary boiler.

**Response 6a:** Kentucky addressed the exclusion of this auxiliary unit in an approved modeling protocol. Tables B1 through B4 in Appendix L.5 of Kentucky's June 25, 2008, regional haze SIP revision present the operating data for the auxiliary boiler at Big Sandy for the period June 22, 2003, through September 24, 2006. During this time, the boiler had an average annual operating factor of 1.16 percent based on the facility's actual operating hours with a range of 0.3 percent in 2005 to 2.68 percent for January to September 2006. With the exception of September 2003, when the boiler was operated for NOx SIP Call Low Mass Emitter certification testing and related operations checks (this testing is required every five years), and during October 2004, when the boiler was operated periodically over a three-day period while both generating units were out of service, the normal operating pattern of the boiler is for it to only be fired at low load periodically for a few minutes to test its ability to be started and for use in starting up Unit 2.

EPA agrees with Kentucky that this data justifies not considering this boiler in the BART analysis.

**Comment 6b:** The Commenter contends that the BART analysis for Big Sandy units 1 and 2 fails to consider: wet electrostatic precipitators (ESPs); switching to a lower sulfur coal either entirely or as a blend or co-firing natural gas or biomass; a circulating fluid bed (CFB) scrubber; a spray dry absorption (SDA) scrubber; installing a fabric filter (FF); upgrading the current ESPs to increase the size and/or change from wire to rigid discharge electrode; changing the operation of the air preheater; or trona injection coupled with replacing the ESP with a new ESP. Because the BART analysis allegedly failed to consider all available retrofit technologies, the Commenter states that EPA must disapprove the SIP with regard to the PM BART determination for Big Sandy. The Commenter also believes that EPA must disapprove the SIP because it does not contain a “firm” closure date for unit 1; an enforceable deadline for the installation of the flue gas desulfurization (FGD) on unit 2 and the ammonia injection on unit 1; and an emissions limit for condensable PM from both units.

**Response 6b:** As stated in Appendix Y of 40 CFR part 51, available retrofit control options are those air pollution control technologies with a practical potential for application to the emissions unit and the regulated pollutant under evaluation. In identifying “all” options, a state must identify the most stringent option and a reasonable set of options for analysis that reflects a comprehensive list of available technologies. It is not necessary to list all permutations of available control levels that exist for a given technology; the list is complete if it includes the maximum level of control that each technology is capable of achieving. Furthermore, EPA does



not consider BART as a requirement to redesign the source when considering available control alternatives. For example, where the source subject to BART is a coal-fired EGU, EPA does not require the BART analysis to consider building a natural gas-fired electric turbine although the turbine may be inherently less polluting on a per unit basis.

AEP performed a full BART analysis for particulates, with its primary focus on the condensable fraction due to the minimal impact from the primary particulates since both units are currently equipped with ESPs for primary particulate control. AEP evaluated five combinations of condensable particulate control options for the two units. For unit 1, AEP only considered injecting ammonia or injecting trona, a mineral composed primarily of sodium and carbonate, for the reduction of inorganic condensables. For unit 2, AEP considered injecting ammonia, injecting trona, or installing a wet FGD system.

In addition, AEP determined that the options involving injecting trona on either unit at Big Sandy were technically infeasible. Based on the experience of AEP at units where sorbents are injected for the reduction of inorganic condensables, the presently installed ESPs at both Big Sandy units are unsuitable for trona injection.

For Big Sandy units 1 and 2, the company agreed to install ammonia injection controls on unit 1 and a FGD on unit 2. KYDAQ reviewed the source's BART modeling determination and available data. Considering the statutory factors, Kentucky determined that the controls proposed by AEP are reasonable and appropriate for addressing condensable particulates and their impacts on nearby Class I areas. EPA agrees with Kentucky's analyses and conclusions. EPA has reviewed the Commonwealth's analyses and concluded that they were conducted in a manner that is consistent with EPA's BART Guidelines and EPA's *Air Pollution Control Cost Manual* (<http://www.epa.gov/ttn/catc1/products.html#cccinfo>).

Regarding AEP's decision not to evaluate installation of a wet FGD on unit 1 because of its age, EPA would generally not rely on an assertion that a unit would shut down without a legally enforceable condition requiring shutdown of the unit at issue. Kentucky has determined that BART for unit 1 is ammonia injection. As noted in EPA's December 16, 2011, proposed rulemaking, on June 9, 2011, AEP announced that Big Sandy unit 1 would be retired by December 31, 2014, and unit 2 would be rebuilt as a natural gas-fired plant by December 31, 2015. Since that announcement, AEP modified its plans to convert unit 2 from coal to gas power. It now plans to construct a dry FGD or "scrubber" system on unit 2, the plant's 800-megawatt electricity generation unit. However, AEP still plans to shut down unit 1 (the older of the two; rated at 278 megawatts) and to retire it at the end of 2014. On December 5, 2011, the company made a formal filing of an Application for a Certificate of Public Convenience and Necessity before the Kentucky Public Service Commission, which must approve the project and investment. As the company continues the required proceedings for closure of unit 1, requiring additional analysis would not likely change the conclusions of the BART analysis. In any case, if the decision to close unit 1 should be reversed, the requirements for an ammonia scrubber remains in place.

**Comment 6c:** According to the Commenter, EPA should clarify whether the 99 percent removal efficiency for the existing ESP at the E.ON U.S. Mill Creek Station (Mill Creek) is for filterable or condensable PM. If it is filterable, the Commenter believes that it is arbitrary to base a BART analysis on the current removable rate for filterable PM when the BART analysis is supposed to address condensable PM. The Commenter also states that the BART analysis rejects pulse jet fabric filter (PJFF) and wet ESP based solely on the incremental cost and admits

that the average cost effectiveness for sorbent injection on all four units is about the same.

“Apparently, the BART analysis rejects sorbent injection on units 1 and 2 because it would cost more to install pollution controls on all four units than on just two units. . . .[t]his is not a rationale basis for rejecting sorbent injection in units 1 and 2.” The Commenter further contends that EPA must disapprove Kentucky’s regional haze SIP with regard to the PM BART analysis for Mill Creek since the analysis fails to consider: switching to a lower sulfur coal either entirely or as a blend or co-firing natural gas or biomass; CFB scrubbers; SDA scrubbers; upgrading existing scrubbers; upgrading the current ESPs to increase the size and/or change from wire to rigid discharge electrode; or changing the operation of the air preheater.

**Response 6c:** The existing ESP removal efficiency referred to by the Commenter is for filterable particulates. These filterable emissions, which are 99 percent controlled, are a substantial portion of the facility’s potential PM emissions and maintaining these limits for regional haze is appropriate. For the two units where additional PM controls are being adopted for BART, the Commonwealth has adopted additional emissions limits to handle condensable PM (primarily in the form of  $\text{SO}_3/\text{H}_2\text{SO}_4$ ), to address those emissions not controlled by the filterable emissions limit. As documented in Kentucky’s May 28, 2010, revision to its regional haze SIP, the title V permitted BART emissions limits for Mill Creek Units 3 and 4 are 64.3 pounds per hour (lb/hr) and 76.5 lb/hr, respectively, for sulfuric acid mist ( $\text{H}_2\text{SO}_4$ ). These are new BART limits for the two units for which controls on condensable particulates are being installed.

Regarding the technologies considered in the BART analysis for Mill Creek, as stated in Appendix Y of 40 CFR part 51, available retrofit control options are those air pollution control

technologies with a practical potential for application to the emissions unit and the regulated pollutant under evaluation. In identifying “all” options, a state must identify the most stringent option and a reasonable set of options for analysis that reflects a comprehensive list of available technologies. It is not necessary to list all permutations of available control levels that exist for a given technology; the list is complete if it includes the maximum level of control that each technology is capable of achieving. Furthermore, EPA does not consider BART as a requirement to redesign the source when considering available control alternatives. For example, where the source subject to BART is a coal-fired EGU, EPA does not require the BART analysis to consider building a natural gas-fired electric turbine although the turbine may be inherently less polluting on a per unit basis. Similarly, EPA does not interpret the CAA or the RHR as requiring states to consider limiting the type of coal burned as a BART control technology.

For the Mill Creek BART analysis, the Commonwealth concluded that the technically feasible technologies for evaluation in accordance with Step 2 of the BART analysis included the existing cold-side ESP and PJFF for PM, and sorbent injection and a wet ESP for sulfates. From this list of technically feasible control technologies, the existing cold-side ESP is already in place at all four units at Mill Creek. Therefore, only the three additional control technologies were subjected to the remaining engineering analysis process to determine BART technologies for visibility modeling. The existing cold-side ESPs at all four units at Mill Creek are already demonstrating high PM removal efficiencies of 99 percent, and all four units are already equipped with wet FGD systems for SO<sub>2</sub> removal, limiting the additional available options for sulfite (SO<sub>3</sub>) condensable particulate control. The incremental cost effectiveness of PJFF and a wet ESP ranged from \$20,380 to \$52,190 per ton of PM reduced, and these options were not

considered further. Sorbent injection was more cost effective, ranging from \$4,293 to \$5,017 per ton of PM reduced.

As discussed in the December 16, 2011, proposed rulemaking, Kentucky determined that BART for Mill Creek is the installation of sorbent injection controls on the larger units 3 and 4. Kentucky did not require BART controls on units 1 and 2 because controls on these units would nearly double the cost (an additional \$8.8 million beyond the \$10.5 million for controls on units 3 and 4) for a visibility improvement of 0.36 deciview (compared with a 0.83 deciview improvement from controlling units 3 and 4). The Commonwealth therefore concluded that controls on units 1 and 2 were not as cost effective.

As is noted in the BART guidelines, the Commonwealth has discretion in assigning the proper weight and significance to each of the five statutory factors that it must consider in making a BART determination. EPA has reviewed the Commonwealth's analyses and concluded they were conducted in a manner that is consistent with EPA's BART Guidelines and EPA's *Air Pollution Control Cost Manual* (<http://www.epa.gov/ttn/catc1/products.html#cccinfo>). Therefore, Kentucky's determination reflects a reasonable application of EPA's guidance to these sources.

**Comment 6d:** The Commenter contends that EPA must disapprove the BART determinations for EKPC's Spurlock and Cooper Stations since the BART analysis provides no limit on condensable PM and fails to consider switching to a lower sulfur coal either entirely or as a blend; co-firing natural gas or biomass; or changing the operation of the air preheater.

**Response 6d:** Regarding the technologies considered in the BART analyses for Spurlock and Cooper, as stated in Appendix Y of 40 CFR Part 51, available retrofit control options are those air pollution control technologies with a practical potential for application to the emissions unit and the regulated pollutant under evaluation. In identifying “all” options, a state must identify the most stringent option and a reasonable set of options for analysis that reflects a comprehensive list of available technologies. It is not necessary to list all permutations of available control levels that exist for a given technology; the list is complete if it includes the maximum level of control each technology is capable of achieving. Furthermore, EPA does not consider BART as a requirement to redesign the source when considering available control alternatives. For example, where the source subject to BART is a coal-fired EGU, EPA does not require the BART analysis to consider building a natural gas-fired electric turbine although the turbine may be inherently less polluting on a per unit basis.

EKPC evaluated three options and agreed to install the top ranking option of wet FGD for SO<sub>2</sub> control and wet ESP for PM control for both Spurlock and Cooper. These controls are consistent with those in a consent decree that EKPC entered into with EPA that will address condensable particulate emissions and other visibility impairing pollutants. Kentucky subsequently modified this BART determination in its May 28, 2010, regional haze SIP revision with a comparably effective option at Cooper Units 1 and 2 of dry FGD and FF emissions controls for the wet FGD and wet ESP controls. EPA believes that Kentucky has appropriately addressed BART for this facility.

**Comment 6e:** For the Tennessee Valley Authority’s (TVA’s) Paradise Fossil Plant (TVA Paradise), the Commenter contends that the BART analysis fails to consider switching to a lower

sulfur coal (either entirely or as a blend); co-firing natural gas or biomass; a wet FGD; a dry CFB scrubber; a SDA scrubber; or changing the operation of the air preheater. For these reasons, the Commenter believes that EPA must disapprove this BART determination.

**Response 6e:** Regarding the technologies considered in the BART analysis for TVA Paradise, as stated in Appendix Y of 40 CFR part 51, available retrofit control options are those air pollution control technologies with a practical potential for application to the emissions unit and the regulated pollutant under evaluation. In identifying “all” options, a state must identify the most stringent option and a reasonable set of options for analysis that reflects a comprehensive list of available technologies. It is not necessary to list all permutations of available control levels that exist for a given technology; the list is complete if it includes the maximum level of control that each technology is capable of achieving. Furthermore, EPA does not consider BART as a requirement to redesign the source when considering available control alternatives. For example, where the source subject to BART is a coal-fired EGU, EPA does not require the BART analysis to consider building a natural gas-fired electric turbine although the turbine may be inherently less polluting on a per unit basis.

All three units at TVA Paradise are already equipped with FGD systems. These systems are in the process of being upgraded, and TVA believes that the work should be completed by December 31, 2012. The BART analysis focused on control of condensable PM (primarily in the form of  $\text{SO}_3/\text{H}_2\text{SO}_4$ ). TVA concluded that neither of the two control options evaluated (wet ESP and hydrated lime injection) were cost effective, and the Commonwealth concurred. However, as discussed in the December 16, 2011, proposed rulemaking, TVA plans to install hydrated lime injection controls on TVA Paradise units 1-3 to mitigate opacity due to  $\text{SO}_3$

emissions, and these controls are required to be in place pursuant to the December 15, 2009, title V permit for the facility. EPA therefore believes that Kentucky has appropriately addressed BART for this facility.

**Comment 6f:** The Commenter makes several statements regarding PM BART emissions limits. First, the Commenter believes that emissions limits at all “subject to BART” units must have an averaging time, testing, and monitoring for condensable PM that assures compliance with the condensable PM limits at all times, including during startup, shutdown, and malfunction. Second, the Commenter asserts that all emissions limits contained in consent decrees must be added to the SIP because consent decrees can be modified without public participation and are eventually terminated. Third, the Commenter explains that, in its opinion, PM BART emissions limits must be effective as soon as practical, and that EPA must determine when this is. The Commenter goes on to state that EPA “cannot just say it has to be effective as soon as practical” since this is “too vague to be enforceable.” For units using existing pollution controls, “the emissions limits should be effective on the date of publication of the final rule. For other units, EPA should determine what is the quickest time the new equipment can be installed and fully operational.” For these reasons, the Commenter claims that EPA must disapprove the SIP submittal.

**Response 6f:** The adopted BART emissions limits all have testing and monitoring requirements that will be included in the respective title V operating permit. The consent decrees stipulate these requirements and explicitly address how startup, shutdown, and malfunctions are to be considered. These agreements also require that the consent decrees remain in force until the title



V permit is issued. Since these limits have been formally adopted by Kentucky in its regional haze SIP, these requirements will become federally enforceable once EPA approves the SIP revisions. The title V permit, which documents all enforceable provisions, will also be updated at the appropriate time. All BART emissions limits are contained in the SIP, including the limits that also appear in consent decrees, and therefore meet the requirement that the limits be federally enforceable. Regarding BART effective dates, 40 CFR 51.308(e)(1)(iv) states that “...each source subject to BART be required to install and operate BART as expeditiously as practicable, but in no event later than 5 years after approval of the implementation plan revision,” and Kentucky adopted requirements consistent with this regulation.

**Comment 7:** The Commenter suggests that EPA should “issue a new proposal and hold a new public comment period” because the “Federal Register notice of EPA’s proposed rule does not include the actual language which EPA is proposing to include in the Kentucky SIP.”

**Response 7:** EPA disagrees with the Commenter’s position on the content of EPA’s December 16, 2011, proposed rulemaking, a position that the Commenter has raised in several prior SIP rulemakings. Neither the CAA nor the Administrative Procedure Act mandates that the proposed and final Federal Register rulemaking actions include the complete text of the proposed SIP revision. The December 16, 2011, proposed rulemaking satisfies the notice requirements by providing citations to the rules at issue, offering the SIP revisions for public review, and describing the subjects and issues involved in the SIP revisions. Publication in the Federal Register is costly and resource intensive, and EPA makes every effort to provide key information in proposal notices while at the same time using Agency resources efficiently. EPA drafts

rulemaking notices to enable public understanding of the subjects and issues at hand. EPA included the complete text of the SIP revisions in the docket at the time that it issued the proposed rule and it remains available for public view. The docket for this action is available at [www.regulations.gov](http://www.regulations.gov) under Docket Identification No. EPA-R04-OAR-2009-0783. In addition, the public may also contact the listed contacts for any further information or questions.

**Comment 8:** The Commenter contends that Kentucky's regional haze SIP must require revisions to address Reasonably Attributable Visibility Impairment (RAVI) within three years of a FLM certifying visibility impairment and that the Commonwealth's commitment to address RAVI should a FLM certify visibility impairment is not enough. The Commenter also contends that the SIP must require Kentucky to submit a report to EPA on progress towards the RPGs and that the Commonwealth's commitment to do so is not sufficient.

**Response 8:** The SIP revisions do not address RAVI requirements since this was the subject of previous rulemakings (see the response to Comment 11). EPA's visibility regulations direct states to coordinate their RAVI LTS provisions with those for regional haze and the RAVI portion of a SIP must address any integral vistas identified by the FLMs. However, as stated in the December 16, 2011, proposed rulemaking, the FLMs have not identified any integral vistas in Kentucky, the Class I area in Kentucky is not experiencing RAVI, and no Kentucky sources are affected by the RAVI provisions. Thus, the June 25, 2008, Kentucky regional haze SIP revisions did not explicitly address the coordination of the regional haze with the RAVI LTS although Kentucky made a commitment to address RAVI should the FLM certify visibility impairment from an individual source. EPA finds that Kentucky's regional haze SIP

appropriately supplements and augments the Commonwealth's RAVI visibility provisions to address regional haze by updating the LTS provisions as Kentucky has done.

Regarding reports on progress toward RPGs, 40 CFR 51.308(g) requires states to "submit a report to [EPA] every 5 years evaluating progress towards the reasonable progress goal for each mandatory Class I Federal area located within the State and in each mandatory Class I Federal area located outside the State which may be affected by emissions from within the State." It is unnecessary for a state rule to make this enforceable since it is part of EPA's regional haze regulations (i.e., an enforceable requirement). The progress reports must be in the form of a SIP revision and are therefore subject to the requirements for SIP revisions in the CAA and to EPA's review and approval. The commitments in Kentucky's SIP are consistent with the regulatory requirements for this provision.

**Comment 9a:** The Commenter claims that Kentucky's regional haze SIP does not explain how monitoring data and other information is used to determine the contribution of emissions from within the Commonwealth to regional haze visibility impairment at Class I areas within and outside Kentucky. Therefore, the Commenter believes that EPA must disapprove Kentucky's regional haze SIP.

**Comment 9b:** The Commenter states that the SIP must clearly state the method by which the Commonwealth intends to report visibility modeling to the EPA. Additionally, the Commenter states that if Kentucky plans to rely on the referenced Visibility Information Exchange Web System (VIEWS) website for reporting, the SIP must clearly state, not imply, that Kentucky intends to use the website as its way of reporting visibility monitoring data. "If Kentucky

intends to use another method of reporting visibility, the proposal need so explain this. If Kentucky intends to use this web site, it is not sufficient that Kentucky is ‘encouraging’ VISTAS to maintain this web site.” The Commenter also states that the Kentucky SIP needs to have an enforceable mechanism to transmit the Interagency Monitoring of Protected Visual Environments (IMPROVE) data to EPA as well as an enforceable mechanism to ensure that the IMPROVE data is continually gathered. The “SIP must include an enforceable requirement that the data is gathered by Kentucky unless it is gathered by other entities such as VISTAS and the National Park Service.” The Commenter concludes by stating that “EPA must disapprove the SIP submittal in this regard because such an enforceable requirement is missing.”

**Response 9a, 9b:** The primary monitoring network for regional haze in Kentucky is the IMPROVE network. There is currently one IMPROVE site in the Commonwealth, which serves as the monitoring site for Mammoth Cave National Park in Kentucky. IMPROVE monitoring data from 2000–2004 serves as the baseline for the regional haze program, and is relied upon in the Kentucky regional haze submittal. Monitoring data is different from emissions data or analyses conducted to attribute contribution. These analyses are part of the ten-year planning period updates conducted by the states.

In its SIP revisions, Kentucky states its intention to rely on the IMPROVE network for complying with the regional haze monitoring requirement in EPA’s RHR for the current and future regional haze implementation periods. Data produced by the IMPROVE monitoring network will be used nearly continuously for preparing the five-year progress reports and the 10-year SIP revisions, each of which relies on analysis of the preceding five years of data. The VIEWS website has been maintained by VISTAS and the other regional planning organizations

(RPOs) to provide ready access to the IMPROVE data and data analysis tools. Kentucky is encouraging VISTAS and the other RPOs to maintain the VIEWS or a similar data management system to facilitate analysis of the IMPROVE data. Kentucky cannot legally bind federal and state legislatures to continue to fund the monitoring program for regional haze. Kentucky's SIP adequately addresses this provision and explains how monitoring data and other information has been and will be used to determine the contribution of emissions from within the Commonwealth to regional haze visibility impairment at Class I areas.

**Comment 9c:** According to the Commenter, there is no indication that Kentucky developed an emissions inventory for the most recent year for which data are available (2008, 2009 or 2010), and EPA must disapprove the SIP on this point. The Commenter also states that there are no requirements for reporting, recordkeeping, and other measures necessary to assess and report on visibility, and therefore, EPA must also disapprove on this point.

**Response 9c:** There are no requirements relating to reporting and recordkeeping of emissions to assess and report on visibility other than those that relate to the submittal the five-year review. The analyses performed in support of Kentucky's SIP revisions were conducted in the 2003-2006 time period. EPA therefore finds the use of the 2002 emissions inventory to be appropriate. The necessary data to assess the SIP submission are contained in the appendices to the Commonwealth's 2008 regional haze submittal. For the more voluminous data such as modeling files, please see Appendix I of the 2008 SIP submittal for data access instructions. The next inventory submittal will be part of the five-year review, and VISTAS has been working with its states to develop a comprehensive baseline inventory (expected to be for 2007 and updated with

appropriate additional later information) which will be part of the five-year submittal. The record demonstrates that Kentucky's SIP adequately addresses the emissions inventory requirement.

**Comment 10:** The Commenter states that Kentucky did not adequately respond to requests from Maine, Vermont, New Jersey, and New Hampshire for a 28 percent reduction in SO<sub>2</sub> emissions from non-EGU sources and a 90 percent reduction in SO<sub>2</sub> emissions from 14 Kentucky EGUs. With regard to the EGUs, the Commenter further explains that Kentucky's assertion that 93 percent of these 14 EGUs have or will have SO<sub>2</sub> controls by 2015 or earlier is flawed because having SO<sub>2</sub> controls on EGUs does not necessarily mean that those EGUs will achieve a 90 percent reduction in SO<sub>2</sub> emissions. The Commenter also asserts that Kentucky did not establish that having SO<sub>2</sub> controls on these EGUs will address Kentucky's apportioned emissions reductions under 40 CFR 51.308(d)(3)(ii)-(iii) for the Class I areas in Maine, Vermont, New Jersey, and New Hampshire. For these reasons, the Commenter believes that EPA must disapprove Kentucky's SIP with regard to its obligations under 40 CFR 51.308(d)(3) to address visibility impacts in these states.

**Response 10:** The letters sent in 2007 from Maine, Vermont, New Jersey, and New Hampshire, (states in the Mid-Atlantic/Northeast Visibility Union (MANE-VU) RPO), invite Kentucky to participate in future consultation meetings because visibility impacts from Kentucky's sources exceeded one of the minimum thresholds used by MANE-VU to identify sources with potential visibility impacts at one or more of the Class I areas in the MANE-VU region. These thresholds for reasonable control consideration were used to identify states to invite to the first set of inter-

RPO consultation meetings. The states' letters cite to the report entitled, *Contributions to Regional Haze in the Northeast and Mid-Atlantic United States*, NESCAUM, August 2006, <http://www.nescaum.org/documents/contributions-to-regional-haze-in-the-northeast-and-mid-atlantic--united-states>. In accordance with 40 CFR 51.308(d)(i), Kentucky participated in consultation calls and meetings in 2007 as requested, and in the Commonwealth's final SIP submittal dated June 25, 2008, Kentucky provided its final response regarding the MANE-VU requests. Kentucky received no adverse comments from any of the MANE-VU states during the public comment period on its proposed regional haze SIP, nor did the Commonwealth receive any additional correspondence from these states once Kentucky submitted its final SIP to EPA.

Kentucky's position is that the significant existing and expected EGU emissions controls more than adequately respond to the EGU and non-EGU requests from the MANE-VU RPO. Kentucky provided supporting information to address its apportionment of emissions reductions in Appendix H of its SIP; and in Appendix H.4, the Commonwealth documents the existing and planned controls for the Commonwealth's EGUs, including those EGUs identified by MANE-VU. These EGU SO<sub>2</sub> controls reflect what is predicted or has occurred to address CAIR requirements. Kentucky demonstrated in its SIP that no additional SO<sub>2</sub> controls beyond CAIR are reasonable for reasonable progress for the first implementation period. Kentucky states in its SIP that it plans to assess the EGU controls predicted under CAIR with what is actually occurring at these sources for the first periodic report due five years after initial submittal of the first regional haze SIP (i.e., June 2013).

As explained in EPA's December 16, 2011, proposed rulemaking, prior to the CAIR remand by the D.C. Circuit, EPA believed the Commonwealth's demonstration that no additional controls beyond CAIR are reasonable for SO<sub>2</sub> for affected Kentucky EGUs for the first

implementation period to be acceptable. However, the Commonwealth's demonstration regarding CAIR and reasonable progress for EGUs, and other provisions in the Kentucky regional haze SIP, are based on CAIR, and thus, the Agency is issuing a limited approval of the Kentucky regional haze SIP revisions.

Regarding non-EGU SO<sub>2</sub> emissions, the Commonwealth established a threshold to determine which emissions units would be evaluated for reasonable progress controls, and found no additional SO<sub>2</sub> controls for these sources are reasonable for the first implementation period. EPA believes that Kentucky has adequately addressed its apportionment of emissions reductions determined through the VISTAS process, and shared via consultation with the other RPOs, in accordance with 40 CFR 51.308(d)(3).

**Comment 11:** The Commenter states that there is no evidence that Kentucky's regional haze SIP revisions comply with the requirement in 40 CFR 51.306(d) that the LTS provides for review of the impacts from any new major stationary source or major modifications on visibility in any mandatory Class I area in accordance with 40 CFR 51.307, 51.166, 51.160 and any binding guidance insofar as these provisions pertain to protection of visibility. The Commenter also contends that EPA must therefore disapprove Kentucky's SIP revisions in part with regard to 40 CFR 51.306(d) and the provisions cited therein.

**Response 11:** The Kentucky regional haze SIP revisions subject to this rulemaking address the regional haze requirements of 40 CFR 51.308 whereas the regulation cited by the Commenter, 40 CFR 51.306(d), is specific to the LTS requirements for RAVI. Furthermore, as identified in footnote 18<sup>2</sup> of EPA's December 16, 2011, proposed rulemaking, Kentucky has already

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<sup>2</sup> The Kentucky visibility SIP revisions to address Prevention of Significant Deterioration (PSD) provisions were submitted to



addressed the new source review requirements for visibility (40 CFR 51.307) and RAVI LTS (40 CFR 51.306) in its SIP and EPA has fully approved these provisions.

**Comment 12:** The Commenter contends that EKPC agreed to install wet FGDs and wet ESPs at Spurlock and Cooper Stations pursuant to a BART analysis, and not pursuant to EKPC's July 2, 2007, consent decree with the United States (United States v. EKPC, 04-34-KSF (E.D. Ky)). The Commenter requests that EPA "clarify the language in the Proposed Rule" accordingly.

**Response 12:** The consent decree was a separate action from the BART determination, and EPA did not intend to imply that the consent decree was entered into to address regional haze. Kentucky structured its SIP to meet the BART requirements, recognizing the existence of similar requirements in the consent decrees. EPA relied on the following language found in the Kentucky regional haze SIP revision (see the May 28, 2010, revised Kentucky regional haze SIP revision, Table 7.5.3-1):

" ....EKPC per a consent decree and for BART will install a wet FGD and wet ESP at EKPC Spurlock Units 1 and 2 that will address condensable particulate emissions and other visibility impairing pollutants", and

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EPA on February 20, 1986, and approved by EPA September 1, 1989 (54 FR 36311). The Commonwealth's visibility plan provisions were submitted on August 31, 1987, and approved July 12, 1988 (53 FR 26256). The nonattainment NSR provisions were submitted July 14, 2004, and approved July 11, 2006 (71 FR 38990).

*“ .... EKPC per a consent decree and for BART will install a dry FGD and fabric filtration at EKPC Cooper Units 1 and 2 that will address condensable particulate emissions and other visibility impairing pollutants.”*

**Comment 13:** According to the Commenter, EPA’s December 16, 2011, proposed rulemaking incorrectly states that the EKPC consent decree provides for a filterable PM emissions rate of 0.03 pound per million British Thermal Unit (lb/MMBtu), and therefore, EPA should delete any reference indicating that the consent decree provides for this 0.03 lb/MMBtu rate for any EKPC unit and any references to this emissions rate.

**Response 13:** EPA reviewed the consent decree and the SIP language again in response to this comment. EPA concludes that the Commenter is correct that the consent decree provided other alternatives to developing a filterable particulate limit. However, Kentucky’s regional haze SIP is explicit in several instances that EKPC identified, and the Commonwealth accepted, the 0.03 lb/MMBtu limit as BART. EPA points the Commenter to the following statements in Kentucky’s regional haze SIP revisions:

*“....A 07/02/07 EKPC consent decree provides a filterable PM emission rate of 0.030 lb/MMBtu, which was utilized to demonstrate modeled visibility improvement. Emission limits and controls will be included in the source’s Title V Permit as appropriate or on renewal.”* (May 28, 2010, revised SIP revision, Table 7.5.3-2).

*“...application of WFGD/ESP controls to Spurlock Units 1 and 2 and Cooper Units 1 and 2, with a filterable PM limit of 0.03 lb/MMBtu, mitigates any adverse visibility impacts in Class I areas within 300 km of each source. In accordance with the draft EPA consent decree, EKPC will apply these controls...”. (Appendix L.11, p.17 (EKPC BART determination submittal, included as part of the Kentucky SIP revision)).*

*“In the 2007 BART Submittal, EKPC determined that a WFGD/WESP control train capable of achieving 0.030 lb/mmBtu filterable PM and 0.052lb/mmBtu total PM was BART for Cooper Units 1 and 2. EKPC is requesting that it be allowed to substitute a DFGD/FF control train capable of achieving 0.030 lb/mmBtu filterable PM and 0.045 lb/mmBtu total PM for the WFGD/WESP control train previously approved ...”(Appendix L.11, p.197 (March 18, 2009 submittal from EKPC to KYDAQ)).*

*“.... Therefore, application of DFG/DIFF controls to Cooper Units 1 and 2, with a filterable PM limit of 0.030 lb/mmBtu, mitigates any adverse visibility impact in Class I areas within 300 km of each source and fulfills the BART requirements...” Appendix L.11, p.200.*

Accordingly, EPA considers the 0.03 lb/MMBtu filterable PM emissions limit to be an appropriately adopted and enforceable SIP limit and part of the BART determination for EKPC Cooper units 1 and 2 and Spurlock units 1 and 2.

**Comment 14:** The Commenter contends that EPA should fully approve Kentucky’s regional haze SIP revisions because they are consistent with EPA’s regional haze rules. In support of its

position, the Commenter states that the regulations allowing states to rely on CAIR to satisfy BART are still legally valid and effective, and therefore, Kentucky can continue to rely on CAIR. The Commenter also believes that EPA should fully approve Kentucky's regional haze SIP in response to the D.C. Circuit's order staying the implementation of the Transport Rule pending resolution of the legal challenges to the Rule.

**Response 14:** EPA has the authority to issue a limited approval (see response to Comment 1) and it is appropriate and necessary to promulgate a limited approval and limited disapproval of Kentucky's regional haze SIP revisions at this time (see response to Comment 2). This action results in an approval of the entire regional haze SIP and all of its elements, preserving the visibility benefits offered by the SIP while providing EPA with the opportunity to demonstrate that the Transport Rule is better than BART. As noted above, EPA has already published a proposed rule reflecting this demonstration. EPA cannot fully approve regional haze SIP revisions that rely on CAIR for emissions reduction measures for the reasons discussed in section IV of the December 16, 2011, proposed rulemaking, and therefore proposed to grant limited approval and limited disapproval of the Kentucky regional haze SIP revisions. The D.C. Circuit's order staying the Transport Rule has no effect on the court's 2008 ruling in *North Carolina v. EPA*, 550 F.3d 1176 (D.C. Cir. 2008). Therefore, the proposed limited approval and limited disapproval actions remain appropriate for the reasons discussed in section IV of the December 16, 2011 proposed rulemaking cited above.

**Comment 15:** The Commenter states that "EPA should promulgate regulations that will avoid any asserted need to propose or promulgate limited disapprovals of regional haze SIPs or to

propose or promulgate regional haze FIPs for states that have relied on CAIR or that may rely on CSAPR, or both, as a BART alternative for NO<sub>x</sub> and SO<sub>2</sub> emissions from EGUs.” The Commenter believes that EPA should promulgate regulations that would provide expressly that a state that becomes subject to CSAPR may choose to adopt a “CSAPR=BART policy that would apply at such time as CSAPR takes effect.” The Commenter also states that the “visibility-improvement benefits from CAIR’s emissions reductions...are likely to be replicated, or indeed exceeded, by the visibility benefits projected to result from CSAPR if CSAPR takes effect in the future.”

**Response 15:** As noted in the response to Comment 3, this action is focused solely on the limited approval and limited disapproval of Kentucky’s regional haze SIP revisions submitted on June 25, 2008, and May 28, 2010. Given that the Transport Rule, or CSAPR, was not signed until 2011, neither SIP revision mentions the Transport Rule nor suggests that the Commonwealth intended to rely on the reductions from this rule to meet the regional haze requirements. EPA did not propose to find that participation in the Transport Rule is an alternative to BART in this rulemaking. EPA made this proposed finding in a separate action on December 30, 2011; therefore, these comments are beyond the scope of this rulemaking and will be addressed by EPA in its final action on the December 30, 2011, proposed rule.

### **III. What is the Effect of This Final Action?**

Under CAA sections 301(a) and 110(k)(6) and EPA’s long-standing guidance, a limited approval results in approval of the entire SIP revision, even of those parts that are deficient and prevent EPA from granting a full approval of the SIP revision (see EPA’s 1992 Calcagni

Memorandum). Today, EPA is finalizing a limited approval of Kentucky's June 25, 2008, and May 28, 2010, regional haze SIP revisions. This limited approval results in approval of Kentucky's entire regional haze SIP and all the elements. EPA is taking this approach because Kentucky's SIP will be stronger and more protective of the environment with the implementation of those measures by the Commonwealth and having federal approval and enforceability than it would without those measures being included in Kentucky's SIP.

In this action, EPA is also finalizing a limited disapproval of Kentucky's June 25, 2008, and May 28, 2010, regional haze SIP revisions insofar as these SIP revisions rely on CAIR to address the impact of emissions from the Commonwealth's EGUs. As explained in the 1992 Calcagni Memorandum, "[t]hrough a limited approval, EPA [will] concurrently, or within a reasonable period of time thereafter, disapprove the rule \* \* \* for not meeting all of the applicable requirements of the Act. \* \* \* [T]he limited disapproval is a rulemaking action, and it is subject to notice and comment." Final limited disapproval of a SIP submittal does not affect the federal enforceability of the measures in the subject SIP revision nor prevent state implementation of these measures. The legal effect of the final limited disapproval for Kentucky's June 25, 2008, and May 28, 2010, SIP revisions is to provide EPA the authority to issue a FIP at any time, and to obligate the Agency to take such action no more than two years after the effective date of EPA's final action. As explained in the 1992 Calcagni Memorandum, "[t]hrough a limited approval, EPA [will] concurrently, or within a reasonable period of time thereafter, disapprove the rule \* \* \* for not meeting all of the applicable requirements of the Act. \* \* \* [T]he limited disapproval is a rulemaking action, and it is subject to notice and comment."

#### **IV. Final Action**

EPA is finalizing a limited approval and a limited disapproval of two revisions to the Kentucky SIP submitted by the Commonwealth of Kentucky on June 25, 2008, and May 28, 2010, as meeting some of the applicable regional haze requirements as set forth in sections 169A and 169B of the CAA and in 40 CFR 51.300–308.

## **V. Statutory and Executive Order Reviews**

### **A. Executive Order 12866, Regulatory Planning and Review**

The Office of Management and Budget (OMB) has exempted this regulatory action from Executive Order 12866, entitled “Regulatory Planning and Review.”

### **B. Paperwork Reduction Act**

Under the Paperwork Reduction Act, 44 U.S.C. 3501 et seq., OMB must approve all “collections of information” by EPA. The Act defines “collection of information” as a requirement for answers to \* \* \* identical reporting or recordkeeping requirements imposed on ten or more persons \* \* \*. 44 U.S.C. 3502(3)(A). The Paperwork Reduction Act does not apply to this action.

### **C. Regulatory Flexibility Act (RFA)**

The RFA generally requires an agency to conduct a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small not-for-profit enterprises, and small governmental

jurisdictions.

This rule will not have a significant impact on a substantial number of small entities because SIP approvals under section 110 and subchapter I, part D of the CAA do not create any new requirements but simply approve requirements that the Commonwealth is already imposing. Therefore, because the federal SIP approval does not create any new requirements, I certify that this action will not have a significant economic impact on a substantial number of small entities.

Moreover, due to the nature of the federal-state relationship under the CAA, preparation of flexibility analysis would constitute federal inquiry into the economic reasonableness of state action. The CAA forbids EPA to base its actions concerning SIPs on such grounds. *Union Electric Co., v. EPA*, 427 U.S. 246, 255-66 (1976); 42 U.S.C. 7410(a)(2).

#### **D. Unfunded Mandates Reform Act (UMRA)**

Under sections 202 of the UMRA of 1995 (“Unfunded Mandates Act”), signed into law on March 22, 1995, EPA must prepare a budgetary impact statement to accompany any proposed or final rule that includes a federal mandate that may result in estimated costs to state, local, or tribal governments in the aggregate; or to the private sector, of \$100 million or more. Under section 205, EPA must select the most cost-effective and least burdensome alternative that achieves the objectives of the rule and is consistent with statutory requirements. Section 203 requires EPA to establish a plan for informing and advising any small governments that may be significantly or uniquely impacted by the rule.

EPA has determined that today’s action does not include a federal mandate that may result in estimated costs of \$100 million or more to either state, local, or tribal governments in the aggregate, or to the private sector. This federal action approves pre-existing requirements



under state or local law, and imposes no new requirements. Accordingly, no additional costs to state, local, or tribal governments, or to the private sector, result from this action.

**E. Executive Order 13132, Federalism**

*Federalism* (64 FR 43255, August 10, 1999) revokes and replaces Executive Orders 12612 (Federalism) and 12875 (Enhancing the Intergovernmental Partnership). Executive Order 13132 requires EPA to develop an accountable process to ensure “meaningful and timely input by State and local officials in the development of regulatory policies that have Federalism implications.” “Policies that have federalism implications” is defined in the Executive Order to include regulations that have “substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.” Under Executive Order 13132, EPA may not issue a regulation that has Federalism implications, that imposes substantial direct compliance costs, and that is not required by statute, unless the federal government provides the funds necessary to pay the direct compliance costs incurred by state and local governments, or EPA consults with state and local officials early in the process of developing the proposed regulation. EPA also may not issue a regulation that has Federalism implications and that preempts state law unless the Agency consults with state and local officials early in the process of developing the proposed regulation.

This rule will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132, because it merely approves a state rule implementing a federal standard, and does not alter the relationship or the distribution of power and responsibilities established in the CAA. Thus, the requirements

of section 6 of the Executive Order do not apply to this rule.

**F. Executive Order 13175, Coordination with Indian Tribal Governments**

Executive Order 13175, entitled “Consultation and Coordination with Indian Tribal Governments” (65 FR 67249, November 9, 2000), requires EPA to develop an accountable process to ensure “meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications.” This rule does not have tribal implications, as specified in Executive Order 13175. It will not have substantial direct effects on tribal governments. Thus, Executive Order 13175 does not apply to this rule.

**G. Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks**

*Protection of Children from Environmental Health Risks and Safety Risks* (62 FR 19885, April 23, 1997), applies to any rule that: (1) is determined to be “economically significant” as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that EPA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, the Agency must evaluate the environmental health or safety effects of the planned rule on children, and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency.

This rule is not subject to Executive Order 13045 because it does not involve decisions intended to mitigate environmental health or safety risks.

**H. Executive Order 13211, Actions that Significantly Affect Energy Supply, Distribution, or Use**

This rule is not subject to Executive Order 13211, “Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use” (66 FR 28355, May 22, 2001) because it is not a significant regulatory action under Executive Order 12866.

**I. National Technology Transfer and Advancement Act (NTTAA)**

Section 12 of the NTTAA of 1995 requires federal agencies to evaluate existing technical standards when developing a new regulation. To comply with NTTAA, EPA must consider and use “voluntary consensus standards” (VCS) if available and applicable when developing programs and policies unless doing so would be inconsistent with applicable law or otherwise impractical.

EPA believes that VCS are inapplicable to this action. Today’s action does not require the public to perform activities conducive to the use of VCS.

**J. Congressional Review Act**

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the Federal Register. A major rule cannot take effect until 60 days after it is published in the Federal Register. This action is not a "major rule" as defined by 5 U.S.C. 804(2).

**K. Petitions for Judicial Review**

Under section 307(b)(1) of the CAA, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by **[INSERT DATE 60 days after publication in the Federal Register]**. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. *See* section 307(b)(2).

**List of Subjects in 40 CFR Part 52**

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Nitrogen dioxide, Particulate matter, Reporting and recordkeeping requirements, Sulfur oxides, Volatile organic compounds.

**AUTHORITY:** 42 U.S.C. 7401 *et seq.*

Dated: March 13, 2012.

A. Stanley Meiburg  
Acting Regional Administrator,  
Region 4.

40 CFR part 52 is amended as follows:

**PART 52--[AMENDED]**

1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

**Subpart S -- Kentucky**

2. Section 52.936 is added to read as follows:

**§ 52.936 Visibility protection.**

(a) The requirements of section 169A of the Clean Air Act are not met because the plan does not include approvable measures for meeting the requirements of 40 CFR 51.308 for protection of visibility in mandatory Class I federal areas.

(b) [Reserved]